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STATISTICAL BULLETIN

METROPOLITAN LIFE INSURANCE COMPANY

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Men of Military Age

SINCE the founding of our Nation, the military man power available for the common defense has been continually increasing, along with the rapid growth of the population as a whole. But the outlook for the future is quite different. It may be only about 15 years before the contingent of men of military age will cease to grow in number, after which time their ranks will begin to diminish.

The situation is graphically illustrated in the chart on the next page, which shows the number of men in three age groups—18 to 20, 21 to 35, and 36 to 44 years—as observed in each decennial census from 1900 to 1930, and as estimated by the National Resources Committee for the period 1940 to 1980. Although the present Selective Service Act is restricted to men of ages 21 to 35, the broader age range is more indicative of our military man power. It will be recalled that during the World War the draft included ages from 18 to 44 years.

Inspection of the chart reveals a striking fact: whereas the total population is expected to continue increasing in number through 1980, men of ages 18 to 44 will reach a maximum of 30.3 million in 1955, and will then gradually decrease in number. In other words, while the peak in our total population is estimated to be about 40 years distant, the peak in our military man power is only 15 years away. It is comforting to know, however, that for the next decade and a half—years which may prove to be among the most critical in world history—the potential military force of this country will still continue to grow.

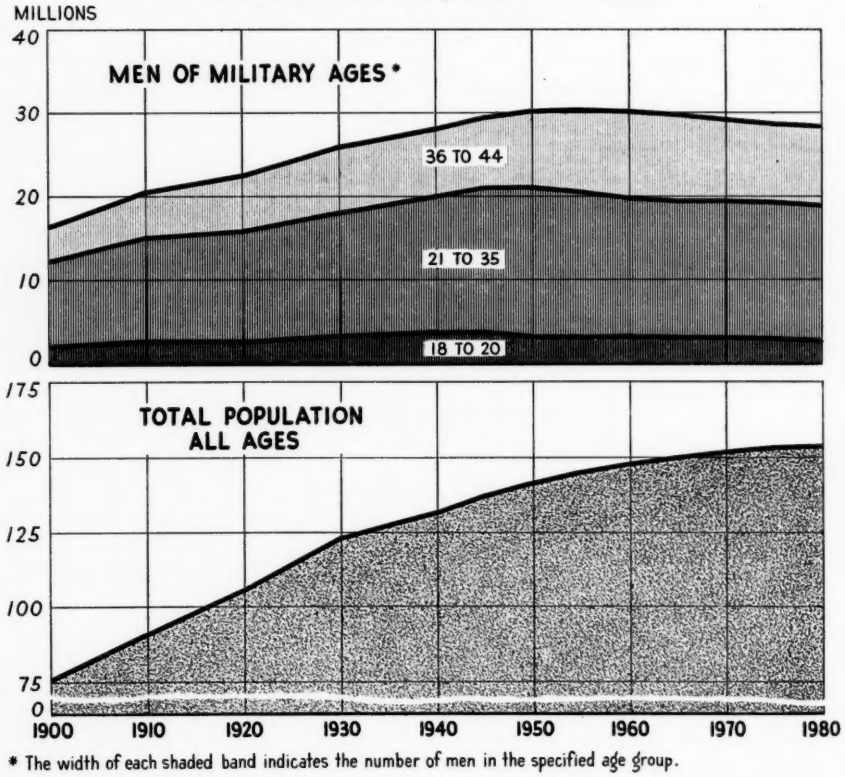
At the beginning of this century there were 16.4 million men of ages 18 to 44, and these constituted 21.5 percent of the total population. Since then, the number of men at these ages has been increasing at practically the same rate as the total population, and in 1940 the total was 28 million. The present outlook is that this percentage will hardly change during the next 10 or 15 years; when the maximum number of 30.3 million is reached in 1955, these men will still constitute about 21 percent of the total. The decline expected to set in after that may be fairly rapid. By 1980 there will probably be about 28.4 million

men of ages 18 to 44, comprising only 18.5 percent of the whole population.

If consideration is restricted to the ages covered by the present Selective Service Act—that is, ages 21 to 35—the situation is even more serious. The number of men at these ages increased from practically 10 million in 1900 to almost 16.4 million in 1940; but the outlook is that the year of maximum number for this age group is barely one decade away—namely, 1950. At that time their number will be about 17.8 million, or 12.6 percent of the total population. By 1980 the number of men in this age range will have declined to 15.9 million, or 10.4 percent of the total.

Men of ages 21 to 35 may be said to constitute our first line of military man power; either of the age groups 18 to 20 or 36 to 44, or both, may be considered our second line. The first of these age groups—18 to 20 years—increased quite rapidly from 2.2 million in 1900 to a peak of 3.7 million in 1940, but the indications are that their number will diminish

MEN OF MILITARY AGES AND TOTAL POPULATION UNITED STATES, 1900 TO 1980



* The width of each shaded band indicates the number of men in the specified age group.

steadily in the coming years; by 1980 it may be about 3.1 million. In this picture we have clear evidence of the effect of the decline in the number of births in our population within the last two decades. The three years from 1920 to 1922, which saw the birth of those aged 18 to 20 in 1940, covered a period during which the annual number of births in the United States reached its highest point.

The other contingent in our second line of military man power—men of ages 36 to 44—will not reach a peak number until some time about 1965. The number for this age group grew from 4.3 million in 1900 to a figure close to eight million in 1940; a maximum of 10.4 million is expected in 1965.

In the gradual advancement of the time at which maximum numbers are reached as we consider, in turn, men of ages 18 to 20, 21 to 35, and 36 to 44, and total population of all ages, we are viewing another aspect of the aging of our population. A tendency toward increase in the average age of our military man power may not necessarily be a matter of great concern, for, in this epoch of mechanized armies, there will be need for the mechanical skills that come principally from experience. However, the present outlook for a decline in the number of men of military ages within the next two decades may give us pause in a war-torn world in which certain nations have expressly formulated plans and policies to stimulate population increase. We, too, must give consideration to these matters.

Nine Hundred Men Victims of Burns in the Home

BURNS, which rank second as a cause of fatal accidents in the home among adults, quite naturally are thought of as a hazard to which more particularly women are exposed. In fact, annually almost twice as many women as men die as a result of burns received in home accidents. Nevertheless, the mortality from burns sustained in the home is far from negligible among men. Actually, in the United States, about 900 deaths, on an average, are thus caused each year among males 15 years old and over, according to an estimate based on the best information available. And this estimate is exclusive of those deaths that occur in connection with the burning of a building.

The exercise of extreme care to avoid burns in the presence of an obvious fire hazard would seem to be almost instinctive. Yet gross carelessness in just such situations accounts for a heavy toll of male lives. This fact is brought out strikingly in the accompanying table, which shows the principal agencies involved and the circumstances surrounding accidents among the 300 male Industrial policyholders of the Metropolitan Life Insurance Company, ages 15 years and over, who were fatally burned in the years 1935 to 1939.

Careless smoking was the chief cause, accounting for 80, or 26.7 percent, of the 300 deaths. In a previous study* of burns among female policyholders, it was determined that smoking was responsible for only about 5 percent of their deaths. Smoking in bed is little short of criminal, since it menaces not only the life of the smoker, but the lives of his family and his neighbors. In many fatal cases resulting from this practice, the accident was caused by the man falling asleep with a lighted cigarette in his mouth. Out of the total of 300 of these insured men, 58 somehow set their night clothes or bed covers on fire while smoking in bed, and received burns that ultimately proved fatal.

Even dozing off while sitting in a chair and smoking, is fraught with danger. Eleven of the 300 fatal burns were thus incurred by the victim falling asleep in his chair, dropping his cigarette, and setting fire to either his clothes or his chair. In other instances he set his bathrobe or other clothing on fire while lighting a cigarette or pipe. Burning tobacco falling from a lighted pipe onto the smoker also caused several cases of fatal burns.

Stoves, furnaces, or grates were involved in about one quarter of the fatal accidents among men. Among women, whose dresses catch fire much more easily than men's clothes, these agencies were found to be involved in almost half the fatal burns.

Flammable liquids play a relatively less important part in the mortality from burns among men than among women. Certain special risks in their use, however, figure prominently in the record for men. Flammable liquids claimed 49, or one sixth of the lives; in 18 of these cases the victim was throwing kerosene or gasoline on a fire to light or hurry it along. Nine men were burned by gasoline explosions while working on or near their automobiles in the family garage. In most of these cases a container of gasoline or gasoline-soaked clothes were ignited. Lighted cigarettes, lanterns, and short circuits were mentioned as the cause of these explosions in few instances.

The handyman at home often tries his hand at a blow torch. Five men were killed either because they did not know how to use, or were careless in their employment of, gasoline blow torches.

The practical joker contributes his unenviable share to fatal burns. A middle-aged man picked up a jar thinking it contained water, and poured the contents over the head of a friend, who was holding a lighted cigarette in his hand. The jar, however, was filled with gasoline, which ignited when it came in contact with the cigarette, causing the smoker's clothes to take fire.

Upsetting oil lamps, upsetting vessels containing hot liquids, and tending bonfires in the yard, were among the other important causes of fatal burns among men.

*"Women's Dress a Fire Hazard." STATISTICAL BULLETIN. October 1939.

Deaths from Burns Among Males, Ages 15 and Over, In and About the Home.*
Metropolitan Life Insurance Company, Industrial Department
Weekly Premium-Paying Business. 1935 to 1939

Agency and Circumstance	Number of Deaths	Percent of Total
Total	300	100.0
Cigars, cigarettes, pipes, and matches	91	30.3
Smoking	80	26.7
Lying in bed	58	19.3
Falling asleep on chair	11	3.7
Lighting cigarette, pipe, etc.	4	1.3
Falling embers from pipes	3	1.0
Other circumstances	4	1.3
Other uses of matches	11	3.7
Stoves, furnaces, grates, etc.†	76	25.3
Standing or sitting close to open fires	30	10.0
Upsetting, careless filling, etc., of oil stoves	11	3.7
Other circumstances	35	11.7
Flammable liquids	49	16.3
Kindling fire	18	6.0
Working near gasoline in garage	9	3.0
Cleaning	7	2.3
Using gasoline blow torch	5	1.7
Other circumstances	10	3.3
Oil lamps	28	9.3
Upsetting lamp on table, window sill, etc.	13	4.3
Falling while carrying lamp	5	1.7
Careless holding of lamp	4	1.3
Other circumstances	6	2.0
Hot liquids	21	7.0
Upsetting vessel on stove or table	7	2.3
Upsetting vessel—no other information	5	1.7
Taking shower or bath	4	1.3
Soaking feet in hot water	3	1.0
Other circumstances	2	.7
Bonfires in yard	11	3.7
Other stated circumstances	15	5.0
Resting feet on hot radiators	4	1.3
Using hot-water bottles	3	1.0
All others	8	2.7
No information given	9	3.0

*Excluding conflagrations.

†Does not include burns from kindling fires with flammable liquids.

Over $182,000,000 Paid Out for Death Claims in 1940

PAYMENTS to beneficiaries of deceased policyholders in all departments of the Metropolitan Life Insurance Company in 1940 amounted to more than $182,000,000, or more than the total paid out on account of death claims during the first 39 years of the Company's existence. The amount was approximately four times the payment in 1920, and some $30,000,000 above the total paid out just 10 years ago in 1930. This sharp rise in amount of claim payment reflects the growth of the Company, since mortality has decreased during the period and in 1940 was lower than ever before.

Our main interest is not, however, in the total amount paid out on account of death claims, but rather in the facts and figures for the specific causes of death which were responsible for the disbursements. The table on page 8 shows the amounts disbursed in 1940 for the leading causes of death, with the percent each item is of total. The corresponding percentages for the years 1920 and 1930 are shown for comparative purposes.

Last year about 88 percent of the total payments were made on account of deaths from natural causes, as compared with 83 percent 10 years earlier. The figures for 1920 are not directly comparable, as at that time double benefits were not paid on deaths by accidental means among the Industrial policyholders.

Heart disease ranked first among the natural causes of death, on the basis of money disbursed, in 1940 as it did in 1930. Twenty years ago it was outranked by influenza and pneumonia and by tuberculosis. The actual payment for deaths from organic heart disease in 1940 amounted to more than $33,051,000 or 18 percent of the total. At the same time the payments for the related diseases of the coronary arteries and angina pectoris were third in rank and amounted to more than $24,180,000, or 13 percent of the claim payments. While the position of heart disease is first as a cause of death, whether the ranking is based on amounts disbursed or death rates, the position of diseases of the coronary arteries and angina pectoris is higher on the former basis than the latter. This follows from the fact that diseases of the coronary arteries are more common, or at least are more often recognized, among those with larger amounts of insurance than among the policyholders with the smaller amounts of protection. If we consider both causes together, with several minor associated conditions such as the acute conditions of the heart, diseases of the arteries, etc., we find that over one third of all claim payments in 1940 were due to diseases of the heart and arteries.

Two other diseases common in middle and later life, which frequently occur concurrently with the

diseases of the heart and arteries, and which practically complete the so-called cardiovascular-renal group —namely, cerebral hemorrhage and chronic nephritis—ranked fourth and fifth among natural causes in 1940. They were responsible for about $13,015,000 and $11,494,000 of claim payment respectively, or together for little more than the diseases of the coronary arteries and angina pectoris. The grand total for the cardiovascular-renal group thus approached one half of all claim payments in 1940, as compared with one third in 1930 and one quarter in 1920. No doubt even a larger proportion of claim payments will fall into this classification in the future, as the payments for the acute infectious conditions continue to decline and as the average age of the population increases.

The second ranking cause of death in 1940, as based on claim payments, was cancer, which held the same position among the natural causes of death 10 years ago but was fourth 20 years ago. The total paid out for cancer in 1940 was well over $25,000,000 or approximately 14 percent of the total. In 1930, cancer claims accounted for 10 percent of the payments and in 1920 for 8 percent.

The record for tuberculosis is one of the very favorable features of the experience, for in 1940 this disease ranked only sixth among the natural causes of claim payment, as compared with fourth in 1930 and second in 1920. Last year tuberculosis accounted for only 4 percent of the total payments, or little more than one half the proportion in 1930, which was, in turn, about one half of the percentage reported 10 years earlier in 1920. That is, the amount disbursed on account of tuberculosis was approximately the same in 1940 as in 1920 despite the fact that total disbursements had increased fourfold.

But even more outstanding than the record for tuberculosis is the record for influenza and pneumonia. In 1920 these diseases together ranked first as a cause of claim payment; in 1930 third, while last year they ranked only seventh. At the same time the disbursements dropped from 18 percent of the total in 1920 to 8 percent in 1930, and to less than 4 percent in 1940. The sharp drop in recent years in the amount of claim payments for deaths from pneumonia reflects the remarkable improvement in mortality following the introduction of type specific serums and chemotherapy in the treatment of the disease.

Diabetes ranked eighth as a cause of claim payment in 1940 with nearly $5,500,000 disbursed on its account. The proportion of claim payments due to diabetes has increased gradually in the past 20 years. In 1940 about 3 percent of the claim payments were due to deaths from diabetes, as compared with 1.7 percent in 1930 and 1.6 percent in 1920. The disbursements for appendicitis, the next ranking cause, were almost one half of those for diabetes, or approximately $2,600,000 in 1940.

While puerperal conditions are

outranked by several causes not included in the table, a particular interest naturally attaches to this cause of death. Disbursements on their account in 1940 totaled approximately $686,000, or less than ½ of 1 percent of the total paid. In both 1920 and 1930, claim payments for this cause of death were much higher. While the decline is attributable in part to the fall in the birth rate, it is mainly due to the marked improvement in maternal mortality in recent years.

Amounts Disbursed on Account of Deaths from Selected Causes. Entire Experience of the Metropolitan Life Insurance Company All Ages. 1940, 1930, and 1920 Compared

Causes of Death	1940 Amount	Percent of Total		
		1940	1930	1920
All Causes—Total	$182,436,068(a)	100.0	100.0	100.0
Natural causes of death	160,161,124	87.8	83.2	90.6
Diseases of the heart (b)	33,051,047	18.1(c)	15.1	11.2
Cancer—all forms	25,230,925	13.8	10.2	8.0
Diseases of the coronary arteries and angina pectoris	24,180,505	13.2	(d)	(d)
Cerebral hemorrhage	13,014,985	7.1	6.3	6.0(c)
Chronic nephritis	11,494,310	6.3(c)	7.2	7.1
Tuberculosis—all forms	7,673,638	4.2	7.9	14.2
Tuberculosis of the respiratory system	7,091,048	3.9	7.2	13.2
Influenza and pneumonia	6,954,442	3.8	8.3	17.8
Influenza	1,241,603	.7	1.4	6.6
Pneumonia—all forms	5,712,839	3.1	6.9	11.2
Diabetes mellitus	5,498,712	3.0	1.7	1.6
Appendicitis	2,606,230	1.4	2.2	1.9
Puerperal state—total	685,905	.4	1.0	2.1
Typhoid fever	166,601	.1	.3	.9
Diphtheria	40,907	.02	.1	.5
External causes of death	22,274,944	12.2	16.8	9.4(e)
Suicides	4,840,329	2.7	3.4	1.2
Homicides	922,707	.5	1.2	.9(e)
Accidents—total	16,511,908	9.0	12.2	7.3(e)
Accidental drowning	1,262,612	.7	.8	.8
Traumatism by fall	2,633,784	1.4	1.5	.9
Railroad accidents	988,684	.5	.8	.9
Automobile accidents (f)	6,759,244	3.7	4.2	1.3

(a) Includes reinsurance received from other companies of $300,390.

(b) Excludes pericarditis, acute endocarditis, and acute myocarditis.

(c) Not strictly comparable with the figures for the other years, owing to changes in classification procedure.

(d) Not available.

(e) Not strictly comparable with the figures for 1940 or 1930. Since December 1, 1928, the Company has extended to Industrial policyholders a double indemnity accidental death benefit without extra premium.

(f) Excludes collisions between automobiles and railroad trains or streetcars.

The remaining amounts disbursed on account of natural causes were widely distributed among many minor causes of death. It may be noted that for two causes of death which were at one time of considerable importance—namely, typhoid fever and diphtheria—the 1940 disbursements were relatively small—only $167,000 for typhoid fever and only $41,000 for diphtheria—very striking evidences of the degree to which these diseases have been eliminated from present-day life.

The external causes continue to be of great importance, with claim payments on their account amounting to about $22,275,000, or 12 percent of the total last year. In this item is a payment of $16,512,000 for accidental deaths, of more than $4,840,000 for suicides, and of $923,000 for homicides. Although the proportion of total payments for deaths from external causes is somewhat less in 1940 than in 1930, it is still exceedingly high, considering the fact that these deaths are largely preventable. The payments on account of deaths from automobile accidents alone amounted to a total of over $6,759,000.

Recent Publications of the Statistical Bureau

THE following studies by the Statistical Bureau of the Metropolitan Life Insurance Company have recently been published, and reprints of them will be sent upon request.

1. *The Problem of Maternity—A Survey and Forecast.*

   American Journal of Public Health, November 1939.

2. *A Mortality Study of Applicants for Insurance Showing Albuminuria and Casts.*

   Proceedings of the Association of Life Insurance Medical Directors. New York, 1939.

3. *No More Tuberculosis by 1960!*

   Survey Graphic, January 1941.

4. *Rounding Out the Tuberculosis Campaign.*

   The British Journal of Tuberculosis, July-October 1940.

5. *Decline of Tuberculosis—Present Death Rates and the Outlook for the Future.*

   American Review of Tuberculosis, February 1941.

6. *The Trend of the Birth Rate by Age of Mother and Order of Birth.*

   Journal of American Statistical Association, December 1940.

7. *Some Things You Can't Prove by Mortality Statistics.*

   Vital Statistics—Special Reports. U. S. Bureau of the Census, Washington, D. C., January 15, 1941.

8. *Diabetes in the 1940's.*

   Metropolitan Life Insurance Company, 1940.

9. *Statistical and Social Implications in the Problem of Our Aging Population.*

   Proceedings of the Bicentennial Celebration of the University of Pennsylvania (available in April).

Health Record for January 1941

THE mortality among the many millions of Industrial policyholders of the Metropolitan Life Insurance Company for the first month of 1941 was 1.5 percent higher than that for January a year ago. This is by no means an unfavorable record, in view of the recent epidemic of influenza which swept large sections of the United States and Canada. Moreover, the death rate of 8.4 per 1,000 policyholders for January 1941 is the second best record for the month, the minimum, 8.3 per 1,000, having been recorded the year before.

The higher death rate this year reflects, in large measure, the sharp increase in mortality among the Company's Industrial policyholders in Canada, which was no less than 30 percent over the first month of last year. Among the Canadian policyholders the death rate jumped from 5.7 per 1,000 in January 1940 to 7.4 in January of the current year, the highest rate registered for that month in any year since 1933. The increase in mortality was particularly marked in the Province of Quebec.

The Metropolitan Industrial policyholders in the Pacific Coast area were likewise affected by the influenza epidemic, but not nearly to the same degree as the Canadians. The mortality in January among these insured on the West Coast was 5.1 percent higher this year than last.

In noting the unfavorable experience for these two areas, we must not lose sight of the splendid health record of the Industrial policyholders in other areas which comprise the great majority of these insured. Considering all the Company's Industrial policyholders together, we find that no less than 12 causes of death recorded lower rates for January of the current year than for that month a year ago. The data appear in the table on page 11. It is particularly significant that the death rate from pneumonia declined while that from influenza rose markedly. Among the other causes of death which showed decreases are the four principal communicable diseases of childhood, tuberculosis, syphilis, diarrhea and enteritis, appendicitis, and the puerperal conditions. The accident record, however, is less favorable than last year's as a result of the sharp increase in motor vehicle fatalities.

The following table shows the mortality among Industrial policyholders for January 1941, December 1940, and January 1940, together with the death rates for the years 1940 and 1939.

METROPOLITAN LIFE INSURANCE COMPANY

Death Rates per 100,000 Policyholders from Selected Causes. Industrial Department. Weekly Premium-Paying Business*

Causes of Death	Annual Rate per 100,000 Policyholders*				
	January 1941	December 1940	January 1940	Year	
				1940	1939
All Causes—Total	843.2	757.6	830.4	760.4	760.0
Typhoid fever	.4	.6	.5	.7	.7
Measles	.3	.1	.4	.3	.6
Scarlet fever	.3	.6	.7	.6	.7
Whooping cough	1.2	1.4	1.5	1.2	1.6
Diphtheria	.7	1.0	1.6	.8	1.3
Influenza	19.1	7.8	13.8	7.9	9.9
Pneumonia (all forms)	50.9	36.1	53.2	35.5	42.8
Tuberculosis (all forms)	41.9	38.7	44.2	44.3	45.2
Tuberculosis of respiratory system	38.2	35.0	40.2	39.9	40.6
Syphilis	9.6	12.8	12.7	11.9	11.2†
Cancer (all forms)	105.3	99.8	101.5	103.5	101.7
Diabetes mellitus	31.7	27.5	29.9	29.5	27.7
Cerebral hemorrhage	65.7	60.6	65.2	60.8	59.7
Diseases of the coronary arteries	54.9	53.0	54.0	49.5	40.2
Angina pectoris	3.4	4.3	3.4	3.0	6.3
Diseases of the heart (other forms)‡	178.4	150.2	171.0	158.6	161.0
Diarrhea and enteritis	3.1	4.1	3.8	4.6	5.4
Appendicitis	6.8	6.8	8.4	9.1	10.3
Chronic nephritis	56.4	50.4	60.8	56.6	51.8
Puerperal state—total	3.4	3.5	5.0	4.9	5.4
Suicides	8.3	7.6	7.6	8.5	8.8
Homicides	3.5	2.8	2.9	3.7	4.4
Accidents—total	51.3	48.6	50.1	46.7	46.2
Home accidents	13.3	11.2	16.0	11.7	11.7
Motor vehicle accidents	23.5	21.4	18.7	18.1	18.3
Automobile accidents§	22.2	20.3	17.4	17.0	17.3
All other causes of death	146.7	139.4	138.0	118.2	117.1

*The rates for 1940 and 1941 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

†Excludes aneurysm of the aorta.

‡Excludes pericarditis, acute endocarditis, and acute myocarditis.

§Excludes collisions between automobiles and railroad trains or streetcars.

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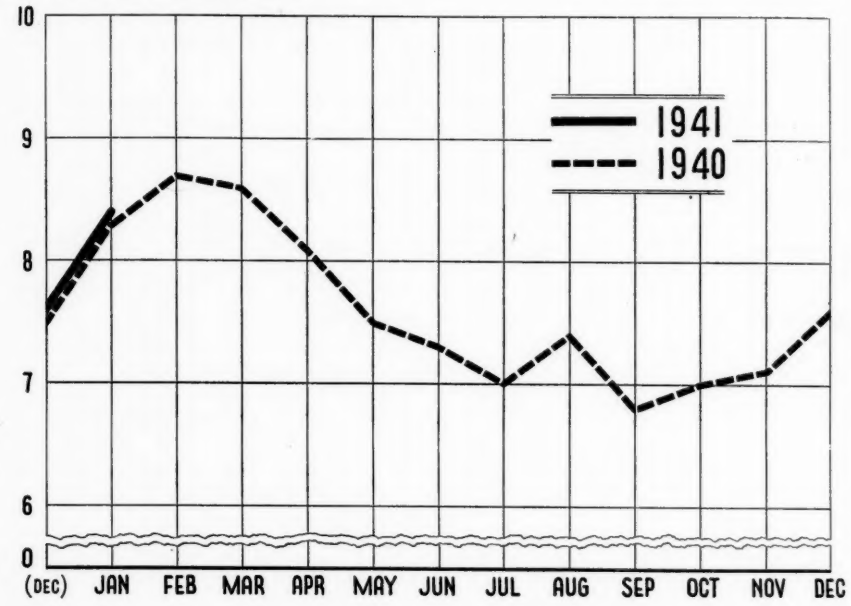
MORTALITY FROM ALL CAUSES

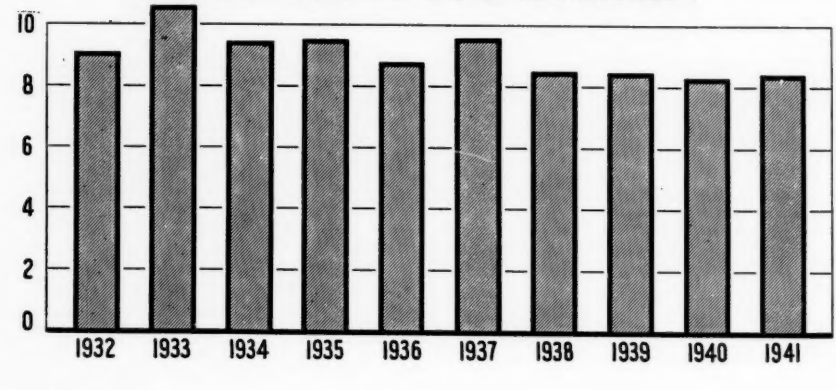
METROPOLITAN LIFE INSURANCE COMPANY
INDUSTRIAL DEPARTMENT, WEEKLY PREMIUM-PAYING BUSINESS

DEATH RATES PER 1,000 · ANNUAL BASIS



(DEC)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1940	8.3	8.7	8.6	8.1	7.5	7.3	7.0	7.4	6.8	7.0	7.1	7.6
1941	8.4											

DEATH RATES FOR JANUARY



Rates for 1940 and 1941 are provisional.

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